On Some Subclasses of Convex and Star-Shaped Conformal Mappings of an Annulus

$$(2.20)\quad f_o(z) = \int_{q^2}^{z} \frac{(\zeta - q^2)^{2\alpha\lambda}\,(\zeta + q^2)^{2\alpha(1-\lambda)}}{\zeta^{2\alpha}\,(1-\zeta)^{2\alpha\lambda}\,(1+\zeta)^{2\alpha(1-\lambda)}}\,d\zeta\,,$$

where $0 \leq \lambda \leq 1$.

Theorem 4 : For $F(z) \in u_q^o$ it holds

$$(2.35)\quad |\arg F'(z)| \leq 2\alpha \arcsin\left[r\sqrt{1-\left(\frac{q^2}{r}\right)^2} + \frac{q^2}{r}\sqrt{1-r^2}\right]$$

Here $z = r\,e^{i\vartheta}$, and the argument means that branch which vanishes for $z = 0$. The equal sign in (2.35) holds only for functions

$$(2.36)\quad F_o(z) = \int_{q^2}^{z} \frac{\left(1 - \frac{q^2}{\zeta}\,e^{i\vartheta}\right)^{2\alpha}}{(1 - \zeta\,e^{i\varphi})^{2\alpha}}\,d\zeta$$

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On Some Subclasses of Convex and Star-Shaped Conformal Mappings of an Annulus

for $\theta = \arccos r - \varphi = \vartheta - \arccos \frac{q^2}{r}$ (the functions (2.36) do not belong to the class u_q^o).
Some generalizations of the classes u_q^o , u_q^* are defined by complicated structural formulas.
The author mentions V.A. Zmorovich, I.I. Privalov, G.M. Goluzin and L.Ye. Dunduchenko.
There are 9 references : 8 Soviet and 1 American.

ASSOCIATION: Zaporozhskiy mashinostroitel'nyy institut
(Zaporozh'ye Machine-Construction Institute)

SUBMITTED: November 21, 1958

Card 8/8

28680
S/021/60/000/007/003/009
D211/D305

16.3000

AUTHOR: Dunduchenko, L.O., and Kas'yanyuk, S.A.

TITLE: Some properties of analytical functions with a positive real part in a circular ring

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 7, 1960, 878 - 882

TEXT: Definitions: $C_q(h + ik)$ is the class of functions regular in $K_z(q; 1) \equiv [0 < q \leq |z| < 1]$ with positive real part $\mathrm{Re}\, f(z) > 0$, $q < |z| < 1$ and satisfying condition

$$\frac{1}{2\pi i} \cdot \int_{|z|=\rho} \frac{f(z)}{z}\, dz = h + ik, \quad h > 0, \quad q < \rho < 1. \qquad (2)$$

$C_q^{\alpha}(h)$ is the class of function regular in $K_z(q; 1)$ for which

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Some properties of analytical ...

$$\frac{1}{2\pi i} \cdot \int_{/z/=\rho} \frac{f(z)}{z}\, dz = 1, \quad q < \rho < 1 \qquad (3)$$

and such that

$$\mathrm{Re}\ f(z) > 1 - \alpha, \quad 0 < \alpha < 1, \quad q < /z/ < 1. \qquad (4)$$

M is the class of real functions $\mu(\theta)$ non-decreasing on the segment $(-\pi; \pi)$ such that

$$\mu(-\pi) = \mu(-\pi + 0) = 0; \int_{-\pi}^{\pi} d\mu(\theta) = 2\pi. \qquad (5)$$

Using the results of work by V.A. Zmorovych (Ref. 1: Matem. Sb. 32 74; 3, 633, 1953) the two following theorems can be proved: Theorem 1: The necessary and sufficient condition that functions f(z) belongs to the class $C_q^o(h + ik)$ is that the function could be represented as follows:

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$$f(z) = \frac{h}{2\pi}\int_{-\pi}^{\pi} F(ze^{-i\theta})\,d\mu_1(\theta) + \frac{h}{2\pi}\int_{-\pi}^{\pi} F\left(\frac{q}{z}e^{i\theta}\right)d\mu_2(\theta) - h + ik, \tag{6}$$

where $\mu_1(\theta) \in M$, $\mu_2(\theta) \in M$ and

$$F(z) = \frac{1+z}{1-z} + 2\sum_{k=1}^{+\infty}\frac{q^{2k}}{1-q^{2k}}\left(z^k - \frac{1}{z^k}\right), \tag{7}$$

where integrals taken are in the Stieltjes sense. Corollary 1. The necessary and sufficient condition that the function f(z) belongs to the class $C_q^{\alpha}(1)$ is that it could be expressed as follows:

$$f(z) = \frac{\alpha}{2\pi}\int_{-\pi}^{\pi} F(ze^{-i\theta})\,d\mu_1(\theta) + \frac{\alpha}{2\pi}\int_{-\pi}^{\pi} F\left(\frac{q}{z}e^{i\theta}\right)d\mu_2(\theta) + 1 - 2\alpha. \tag{8}$$

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The Lauran's expansion of function f(z) is then

$$f(z) = \sum_{n=-\infty}^{+\infty} a_n z^n = \tag{9}$$

$$= \ldots + \frac{a_{-n}}{z^n} + \ldots + \frac{a_{-1}}{z} + 1 + a_1 z + \ldots + a_n z^n + \ldots$$

Theorem 2: If function $f(z) \in C_q^{\alpha}(1)$ then the Lauran's coefficients satisfy inequalities

$$|a_\nu| \leqslant \frac{2\alpha}{|1 - q^\nu|}, \quad \nu = \pm 1, \pm 2, \ldots \tag{10}$$

The equality holds for functions

$$f_0(z) = 1 - 2\alpha + \alpha F(ze^{-i\beta}) + \alpha F(\frac{q}{z} e^{i\gamma}) \tag{11}$$

in the points $\beta = 0$ and $\gamma = \pi/n$ for $V = n$, $\beta = \pi/n$ and $\gamma = 0$ for $V = -n$ for each fixed ν. Using the variation method of V.A.

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Zmorovych (Ref. 2: Ukr. Matem. Zhurn., 4, 276, 1952) four additional theorems are proved: The author also gives the functions for which the equality holds. If q tends to infinity, all theorems pass into a well-known theorem in a region $|z| < 1$, for regular functions with a positive real part. There are 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: J.E. Littlewood, Lectures on the Theory of Functions, Oxford Univ. Press, 1944.

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Institute for Machine-building, Zaporoshe)

PRESENTED: by B.V. Hnyedenko, Academician AS UkrSSR

SUBMITTED: November 23, 1959

Card 5/5

85219

S/042/60/015/005/011/016XX
C111/C222

16.3000

AUTHORS: Dunduchenko, L.Ye., and Kas'yanyuk, S.A.

TITLE: On Spiral Functions Schlicht Within an Annulus

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol.15, No.5, pp.165-170

TEXT: Let $K_z(q;1)$ be the annulus $0<q<|z|<1$. A function $w = f(z)$ schlicht in $K_z(q;1)$ belongs to the class $S_\alpha(f)$ of the spiral functions: $w \in S_\alpha(f)$ if it maps $K_z(q;1)$ onto a doubly connected domain intersecting with every logarithmic spiral of the family

(1) $$|w| = \exp\left\{\operatorname{ctg}\alpha(\arg w - \varphi_0)\right\}, \quad |\alpha| < \frac{\pi}{2}, \quad 0 \leq \varphi_0 \leq 2\pi,$$

where α = const, φ_0 - parameter on an arc not containing 0 and ∞. Let

$$\vartheta_1\left(\frac{\ln\zeta}{2\pi i}\right) = A\cdot(1-\zeta)\prod_{k=1}^{+\infty}(1-q^{2k}\zeta)(1-q^{2k}\zeta^{-1})$$

$$\vartheta_0\left(\frac{\ln\zeta}{2\pi i}\right) = A\prod_{k=1}^{+\infty}(1-q^{2k-1}\zeta)(1-q^{2k-1}\zeta^{-1})$$

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On Spiral Functions Schlicht Within an Annulus

$$A = \prod_{k=1}^{+\infty}(1-q^{2k}) \ , \quad 0<q<|\zeta|<1.$$

For $|f(z)|$ and $\arg\left(\frac{f(z)}{z}\right)$, where $f(z)\in S_{\alpha}(f)$, the authors give upper and lower estimations, e.g.:

$$|f(z)| \leq r \exp\left\{\cos^2\alpha \left|\frac{\vartheta_0\left(\frac{\ln r\, e^{\pm i\beta_2'}}{2\pi i}\right)}{\vartheta_1\left(\frac{\ln r\, e^{\pm i\beta_2}}{2\pi i}\right)}\right|^2 + \sin 2\alpha \arg\frac{\vartheta_0\left(\frac{\ln r\, e^{\pm i\beta_2'}}{2\pi i}\right)}{\vartheta_1\left(\frac{\ln r\, e^{\pm i\beta_2}}{2\pi i}\right)}\right\},$$

where $r = |z|$, $q<r<1$, and β_2, β_2' are solutions of certain auxiliary equations.
In a theorem it is proved that the strong upper and lower estimations of

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On Spiral Functions Schlicht Within an Annulus

arg $\left(\frac{f(z)}{z}\right)$ and $|f(z)|$ in the class $S_\alpha(f)$ are reached by the following schlicht spiral function:

$$(4) \qquad f_0(z) = z\left\{\vartheta_0^{2e^{-i\alpha}\cos\alpha\left(\frac{\ln z\, e^{-i\gamma}}{2\pi i}\right)} \cdot \vartheta_1^{-2e^{-i\alpha}\cos\alpha\left(\frac{\ln z\, e^{-i\omega}}{2\pi i}\right)}\right\},$$

where the constants γ and ω, $-\pi < \gamma, \omega \leq \pi$ must suitably be chosen. The authors mention V.A.Zmorovich. There are 6 Soviet references.

SUBMITTED: February 24, 1959

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33747
S/021/62/000/002/001/010
D299/D304

16.3000

AUTHORS: Dunduchenko, L. O. and Kas'yanyuk, S. A.

TITLE: On a regular function with positive real part in an ellipse

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi. no. 2, 1962, 147-150

TEXT: Let E denote a univalent simply-connected region of the z-plane, bounded by the ellipse $z = a\cos\theta + ib\sin\theta$, $c^2 = a^2 - b^2$. Picard showed that the function $f(z)$, regular in E, can be expressed by the series

$$f(z) = c_0 + \sum_{n=1}^{+\infty} c_n P_n(z), \quad \mathrm{Re}\, c_0 = 1 \qquad (1)$$

where

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$$P_n(z) = (z + \sqrt{z^2 - c^2})^n + (z - \sqrt{z^2 - c^2})^n \qquad (2)$$

is a non-normalized Chebyshev polynomial. One sets

$$\xi = \frac{z + \sqrt{z^2 - c^2}}{a + b}, \quad q = \frac{a - b}{a + b} \qquad (3)$$

Using Schwarz's formula for the ellipse, it is possible to prove the following Theorem 1: The necessary and sufficient condition for the single-valued function f(z) to have a positive real part in E, is that it should be expressed by the formula

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On a regular function ...

$$f(z) = i\beta + \frac{1}{2\pi}\int_{-\pi}^{\pi}\left[F\left(\frac{z+\sqrt{z^2-c^2}}{a+b}\,e^{-i\theta}\right) + 2\Phi\left(\frac{z+\sqrt{z^2-c^2}}{a+b}\,e^{i\theta}\right)\right]d\mu(\theta) \qquad (6)$$

where μ and β are real constants, and

$$F(x) = \frac{1+x}{1-x} + 2\sum_{n=1}^{+\infty}\frac{q^{2n}}{1-q^{2n}}\,(x^n - x^{-n}); \quad 2\Phi(x) = F\left(\frac{q}{x}\right) - 1 \qquad (7)$$

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It is noted that if one takes in formula (6) the function $\mu(\theta)$ as a step function with a single discontinuity at $\theta = 0$, one obtains a regular normalized function which effects a univalent mapping of E on the right halfplane. Theorem 2: If Ref(z) is positive in E and the regular function f(z) can be expanded in Series (1), then the exact inequalities

$$|c_n| \leqslant \frac{2}{(a+b)^n(1-q^n)}, \quad n = 1,2,\ldots, \tag{9}$$

hold, which are only satisfied by functions of type

$$w = \frac{i}{\pi}\left[\zeta\left(u - \frac{1}{4n}\right) - \zeta_3\left(u + \frac{1}{4n}\right)\right], \quad n = 1,2,\ldots, \tag{10}$$

where

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$$u = \frac{1}{2\pi i} \ln\left(\frac{z + \sqrt{z^2 - c^2}}{a + b}\right) ; \quad \zeta(u) = \frac{\sigma'(u)}{\sigma(u)} ; \quad \zeta_3(u) = \frac{\sigma_3'(u)}{\sigma_3(u)}$$

A function f(z) which can be expanded in Series (1) is said to be typically-real in E, if for any z,(z E) the quantity Imf(z)·Imz retains its sign for Imz $\neq$ 0. In the following, one sets $c_0 = 0$ in Eq. (1). Theorem 3: If f(z) is regular and typically-real in E, then the regular function

$$\varphi(z) = \frac{1}{a^2 - b^2}\left[bz - a\sqrt{z^2 - c^2}\right] \cdot f(z) \qquad (11)$$

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has a positive real part in E. A further theorem gives inequalities related to typically-real functions. The definition is given of a regular function, convex in the direction of the imaginary axis; two theorems are stated for such functions (analogous to Theorems 1 and 2). There are 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Zaporiz'kyy mashynobudivnyy instytut (Zaporizhe Machine-Building Institute)

PRESENTED: by Academician Yu. O. Mytropol'skyy of the AS UkrRSR

SUBMITTED: June 21, 1961

Card 6/6

DUNDUCHENKO, L.Ye. [Dunduchenko, L.O.]; KAS'YANYUK, S.A.

A-convolutions of Laurent series. Dop.AN URSR no.7:845-849 '61. (MIRA 14:8)

1. Zaporozhskiy mashinostroitel'nyy institut. Predstavleno akademikom AN USSR B.V.Gnedenko [Hniedenko, B.V.].
(Functions, Analytic) (Series, Taylor's)

DUNDUCHENKO, L.Ye. [Dunduchenko, L.O.]; KAS'YANYUK, S.A. [Kas'ianiuk, S.A.]

Regular functions with a positive real part in the ellipse [with summary in English]. Dop. AN URSR no.2:147-150 '62. (MIRA 15:2)

1. Zaporozhskiy mashinostroitel'nyy institut. Predstavleno akademikom AN USSR Yu.A.Mitropol'skim [Mytropol's'kyi, IU.O.]
(Functions)

KAS'YANYUK, S.A.

Interpolation problem for positive functions, harmonic in a unitcircle. Usp. mat. nauk 20 no.6:98-101 N-D '65. (MIRA 18:12)

1. Submitted March 16, 1965.

L 29109-66 - EWT(d)/T IJP(c)

ACC NR: AP6019392 SOURCE CODE: UR/0042/65/020/006/0098/0101

AUTHOR: Kas'yanyuk, S. A.

ORG: none

TITLE: Interpolation problem for positive functions harmonic within a unit

SOURCE: Uspekhi matematicheskikh nauk, v. 20, no. 6, 1965, 98-101

TOPIC TAGS: interpolation, harmonic function

ABSTRACT: The article considers positive harmonic functions which are the real parts of functions $w=f(z)$, regular in circle $|z|<1$, and expressible by the Riesz-Gerglotts [transliterated from the Russian] structural formula:

$$w=f(z)=\int_0^{2\pi}\frac{1+ze^{-it}}{1-ze^{-it}}\,d\mu(t),\quad \mu(t)\in M,\quad \int_0^{2\pi}d\mu(t)=1. \qquad (1)$$

Each function $w=f(z)$ maps circle $|z|<1$ onto a region situated in half-plane $\mathrm{Re}\,w>0$, translating point $z=0$ into point $w=1$. Let z_1 and z_2 be two points of circle $|z|<1$, and let the value of the real part of function $f(z)$ in point z_1 be fixed. Question: What are the bounds of variation of the real part of such functions at point z_2? If the number λ is selected from segment [0, 1], the question reduces to solving the connected extremum problem of finding the maximum and minimum value of $\mathrm{Re}\,f(z_2)$, where $f(z)$ is defined by equation (1), provided that $\mathrm{Re}\,f(z_1)=\frac{1+2|z_1|(2\lambda-1)+|z_1|^2}{1-|z_1|^2}$. The author formulates two theorems for the solution. Orig. art. has: 16 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 16Mar65 / ORIG REF: 002

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AKUL'SHINA, Ye.[illegible]; BGATOV, V.I.; GURARI, F.G.; GUROVA, T.I.; DERBIKOV, I.V.; YEGANOV, E.A.; KAZANSKIY, Yu.P.; KALUGIN, A.S.; KAS'YANOV, M.V.; KOSOLOBOV, N.I.; KASYGIN, Yu.A.; MIKUTSKIY, S.P.; SAKS, V.N.; TROFIMUK, A.A.; UFANTSEV, D.D.

Professor Vladimir Panteleimonovich Kazarinov; on his 50th birthday. Geol. i geofiz. no.3:122-123 '62. (MIRA 15:7)
(Kazarinov, Vladimir Panteleimonovich, 1912-)

KASYMALIYEV, S.

Experimental work of students in animal husbandry.
Biol. v shkole no.5:51-53 S-O '62. (MIRA 16:2)

1. Kirgizskiy nauchno-issledovatel'skiy institut pedagogiki.
(Stock and stockbreeding--Study and teaching)

TSEFT, A.L.; TARASKIN, D.A.; KASYMBEKOV, S.K.

Thermal decomposition of magnesium chloride with production of an active product and hydrochloric acid. Trudy Inst. met. i obog. AN Kazakh. SSR 14:62-68 '65. (MIRA 18:10)

KASYMBEKOVA, K.K.

PHASE I BOOK EXPLOITATION SOV/5690

Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki.

Metallovedeniye i obrabotka metallov davleniyem (Physical Metallurgy and Pressworking of Metals) Alma-Ata, 1961. 183 p. (Series: Trudy Instituta yadernoy fiziki, t. 4) 2,450 copies printed.

Resp. Eds.: I. G. Grinman and A. A. Presnyakov; Resp. Secretary: V. V. Chervyakova; Eds.: M. Ya. Brailovskaya and T. I. Shevchuk; Tech. Ed.: Z. P. Rorokina.

PURPOSE: This book is intended for scientific research workers, technical personnel in industry, and students and aspirants interested in problems of physical metallurgy and the pressworking of metals.

COVERAGE: The book, Volume IV of the Transactions of the Institute of Nuclear Physics, Academy of Sciences Kazakh SSR, contains papers reviewing problems of physical metallurgy. Attention is given to a consideration of metal ductility, strength, phase transformation, and the ordering of various alloys, and to a discussion of the diffusion mechanism of the plasticity. Experimental findings concerning strength, deformation, and external friction in the working of non-ferrous metals and alloys are included in papers dealing with metal rolling.

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Problems of automatic inspection and control of multidraft wire-drawing frames are also considered. Most of the papers are accompanied by references, the majority of which are Soviet.

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Physical Metallurgy and Pressworking of Metals SOV/5690

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E073/E535

AUTHORS: Kasymbekova, K.K. and Presnyakov, A.A. (Alma-Ata)

TITLE: On the plasticity of ordering alloys of the system magnesium-cadmium

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1961, No.4, pp.101-102

TEXT: By numerous investigations of the Mg-Cd system the existence of the following three compounds, forming from the solid solution as a result of ordering during lowering of the temperature, was established: Mg_3Cd, MgCd, $MgCd_3$. Ye. M. Savitskiy and V. V. Baron (Ref.1: Izv.AN SSSR, OKhN, 1952, No.3, 392-396) found that all the three compounds form considerable ranges of homogeneity and have a high ductility combined with a low hardness. However, these authors did not carry out a systematic investigation of the properties of these compounds with changing temperatures. This paper is devoted to studying the mechanical properties of the above mentioned compounds, which form during the process of ordering and are nearest in structure to solid solutions. All the three compounds were studied in the as-cast state and the compound MgCd was also investigated in the homogenized state. The alloys

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were melted in a graphite crucible using a carnallite flux. Magnesium and cadmium were used as charge materials. From the cast blanks, specimens for tensile tests were machined with a gauge length of 20 mm and a diameter of 5 mm; the tests were made with a loading speed of 1 to 2 mm/min. Specimens from an alloy with a composition approaching the stoichiometric MgCd composition were homogenized for 145 hours at 210°C. The test technique was the same for all the specimens: heating to the desired temperature in 10 min, holding at that temperature for 30 min, fracturing. The contraction was taken as a measure of the plasticity. The Mg_3Cd compound was most thoroughly investigated in the temperature range 125-400°C; the compound MgCd in the temperature range 225-400°C in the as-cast state and in the temperature range 20-400°C in the homogenized state; the compound $MgCd_3$ in the temperature range 20-175°C. Analysis of the obtained data (Fig.1) shows that the Mg_3Cd and $MgCd_3$ compounds in the as-cast state show two contraction minima, one at the ordering temperature and the other slightly above that temperature; the plasticity increases on further increase in the temperature. For the compound MgCd in the as-cast state a contraction minimum was also observed at the

ordering temperature and a sharp increase in plasticity followed with a slight drop in plasticity at about 300°C. In testing homogenized specimens of the compound MgCd (Fig.2) the authors observed only a uniform increase of the contraction with temperature. Above 150°C the plasticity remained constant and no anomalies were observed in the contraction curve. However, the elongation determined in the same tests showed an appreciable maximum (up to 165%) at about 280°C within a very narrow range of temperatures slightly above the temperature of complete disordering (250°C). It is known that such unusual effects, referred to as "super-plasticity", are observed in the case of intensive diffusion during the stabilization of metastable specimens. Obviously, the process of establishing complete disorder during the heating is delayed somewhat and develops extensively in a narrow temperature range slightly above the point of order-disorder transition. The difference in the change in the plasticity of alloys with temperature in the as-cast and the homogenized states can be explained as follows: in as-cast alloys a certain degree of long-range order occurs which appears on the X-ray diffraction patterns in the form of super-structure lines;

On the plasticity of ordering ...

on increasing the temperature the degree of ordering increases. The process of ordering has the highest speed at temperatures slightly below the order-disorder transition temperature, which also manifests itself by a maximum in the plasticity of the $MgCd_3$ compound at 75°C and the Mg_3Cd compound at 140°C and the $MgCd$ compound at 220°C. If the temperature increases further, the kinetics of the process of ordering becomes less intensive and the plasticity indices decrease accordingly. At higher temperatures the reverse process takes place, namely, disordering, which yields a maximum plasticity: at 140°C for $MgCd_3$, at 280°C for MgCd and at 200°C for Mg_3Cd. In investigating ordered specimens of MgCd the high degree of ordering leads to intensive disordering, even in the temperature range 100-150°C, as a result of which there will be an appreciable increase in the contraction; this process is most intensive at about 280°C and manifests itself by the effect of super-plasticity. Thus, experimental data on the plasticity of the compounds Mg_3Cd, MgCd and $MgCd_3$, formed by the process of ordering, indicates that their dissociation (disordering) on increasing the temperature is

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accompanied, firstly, by a considerable general increase in the plastic properties and, secondly, by an anomalous increase in plasticity at certain temperatures. There are 2 figures and 3 Soviet references.

[Abstractor's Note: Complete translation.]

SUBMITTED: January 24, 1961

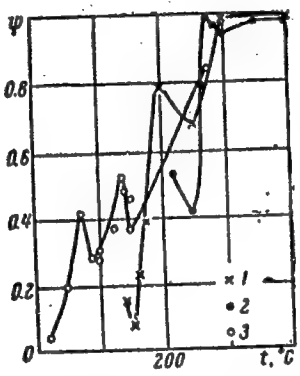

Fig.1. Legend.

Temperature dependence of the plasticity in the as-cast state of the alloys Mg_3Cd (1), MgCd (2) and $MgCd_3$ (3).

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E073/E535

18 1210

Authors: Kasymbekova, K.K. and Presnyakov, A.A.

Title: Causes of concentration non-uniformities in solid solutions

Periodical: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No.7, pp.20-22

Text: In earlier work of the authors relating to X-ray structural investigations of coarse grain brasses, a considerable scatter in the lattice parameter was observed. Analogous phenomena were observed in studying aluminium bronzes, aluminium-copper and aluminium-zinc alloys. In all cases the scatter of the parameter increased sharply near the line of phase transformations (Fig.1). In this paper the authors investigated a number of alloys of the Cu-Ni system by the method of micro-hardness and by X-ray analysis. It was found that the concentration non-uniformity of the alloys belonging to the continuous series of solid solutions is associated with their concentration and increases with increasing concentration. The concentration

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non-uniformity is particularly pronounced in the case of long duration annealing and quenching (1000°C, 10 hours). Slow cooling after annealing leads to a decrease in the non-uniformities. The highest non-uniformity in the microhardness as well as in the lattice parameter was observed on quenching from temperatures which are near to the solidus temperature (Fig.2). If the annealing temperatures are not high enough, the non-uniformities of alloys with various nickel contents remain unchanged. The results have shown the following:

1. Concentration non-uniformities in solid solutions can be observed also in alloys belonging to the continuous series of solid solutions where there is no possibility of formation of particles of the second phase in the interdendrite spaces.
2. The non-uniformity depends on the composition of the alloy, increasing with increasing degree of alloying.
3. The non-uniformity increases with increasing annealing temperature.

Thus, the non-uniformity has nothing to do with dendritic liquation but is due to a stable enrichment of individual areas with one of

the components of the alloy at elevated temperatures. Such a phenomenon is referred to as type III heterogeneity. The following conclusions are arrived at:

1. In solid solutions considerable discrete concentration non-uniformities are observed which prepare phase transformations in temperature ranges which are sufficiently distant from the line of equilibrium of the diagram of state.
2. The cause of occurrence of such type III heterogeneity is the diffusion which precedes the reconstruction of a crystal lattice at temperatures and concentrations at which phase transformations occur. There are 2 figures and 8 Soviet references.

ASSOCIATION: Institut yadernoy fiziki AN Kazakhskoy SSR (Institute of Nuclear Physics Kazakh SSR)

X

36809
S/135/62/000/004/095/201
A052/A101

18.1210 (2409)

AUTHORS: Presnyakov, A. A., Chervyakova, V. V., Kasymbekova, K. K.

TITLE: On the problem of the nature of ductility dips with aluminum alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 25, abstract 4I146 ("Tr. In-ta yadern. fiz. AN KazSSR, no. 4, 1961, 15-22)

TEXT: In order to establish a connection of ductility dips with diffusion processes, alloys of Al with 0.8, 2.6 and 4% Cu were investigated. The samples were subjected to static tension and ψ was determined as a function of the time of diffusion annealing, hardening temperature, duration of the exposure to different testing temperatures and the rate of heating. It is established that the aging causes the appearance of dips on the ductility curve. Only in the case of diffusion-annealed samples (during 168 hours at 520°C) and cooled at a rate of 3 degree/min no ductility dip was observed. Thus the disappearance of the dip is connected with the absence of aging with an alloy in the state of maximum equilibrium. In a hardened state the alloys prove to be most ductile and the dip in the region of 100°C is the least developed. An increase of hardening temperature from 250 to 350°C causes a sharp increase of ψ. On transition to

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S/135/62/000/004/095/201
A052/A101

On the problem of the nature ...

hardening temperatures of 500 - 570°C a further increase of ductility is observed. The effect of recrystallization was studied on Al-Cu alloys with 0.8, 2.0, 6.1% Cu and on silumins with 0.45, 1.1, 3.3, 6.7, 11.7 and 18% Si and also on commercial Al. After a cold deformation by 50%, hollow cylinders for X-ray diffraction study were turned of blanks. The back radiography was performed in the temperature chamber. The experiments were carried out up to 200 and > 300°C every 50° and in the range of 200 - 300°C every 20°. The radiograms were processed photometrically to determine the width and intensity of the lines. The beginning of recrystallization was determined from the emergence of isolated spots. In Al-Cu alloys the beginning of recrystallization was registered at 220 - 260°C, in the Al-Si system the beginning of recrystallization spreads over the range of 220 - 350°C. An increase of the Si content to 3.3% reduces sharply the number of spots. In the Al-Cu system a fairly good coincidence between the maximum intensity temperature of development of recrystallization processes with the zone of a sharp decrease of ductility characteristics is observed. In the case of silumins a shift over the temperature scale of the range of the most intensive development of the recrystallization process is observed depending on the composition. There are 11 references.

M. Matveyeva

[Abstracter's note: Complete translation]

Card 2/2

KASYMBEKOVA, K.K. (Alma-Ata); PRESNYAKOV, A.A. (Alma-Ata)

Plasticity of ordered alloys in the system magnesium-cadmium.
Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.4:101-102
Jl-Ag '61. (MIRA 14:8)
(Magnesium-cadmium alloys—Testing)

DUDAREV, V.Ya.; ZHDANOV, G.S.; ALEKSEYEV, B.A.; KASYMBEKOVA, K.K.

Products of graphite sputtering when bombarded with Sn^-, V^+, Mo^+ ions. Atom. energ. 13 no.2:184-186 Ag '62. (MIRA 15:8)
(Sputtering (Physics)) (Graphite) (Ion beams)

KASYMBEKOVA, K.K.; MELIKHOV, V.D.; PRESNYAKOV, A.A.

Changes in the structure of magnesium-cadmium alloys during ordering. Trudy Inst. met. i obog. AN Kazakh. SSR 7:30-35 '63. (MIRA 17:6)

S/126/63/015/001/019/029
E073/E151

AUTHORS: Kasymbekova, K.K., and Presnyakov, A.A.

TITLE: Physical properties of γ-phase Cu-Zn

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.1, 1963, 134-137

TEXT: Published information on the γ-phase is scanty. Specimens were prepared by casting and by hot-pressing at 700 °C, with a load of 30 tons giving 80% reduction, using alloy made from 99.997% purity Cu and 99.99% purity Zn, either under air or under argon. Deformation of the hot-pressings was carried out by bending through a large angle over a small radius. This was readily carried out shortly after removal from the mould, but if allowed to cool by 20-60° before testing the specimens became extremely brittle. The brittle-ductile transition temperature was found to be 650-670 °C. Equilibrium was achieved by annealing the hot-pressed specimens for 90 hours, made up of 2 hours at 750°, 4 hours at 650°, 12 hours at 500°, 12 hours at 400°, 20 hours at 300°, 20 hours at 200°, 20 hours at 100°. Determinations were made of the hot hardness, and microhardness after quenching, and bend ductility, and the

Physical properties of γ-phase Cu-Zn S/126/63/015/001/019/029
E073/E151

structure of the fracture was analysed. Conclusions. Several transformations were observed over a wide temperature range, confirming previous data on transformations at 280 and 500°, and revealing a new transformation at 700°. This transformation influences the γ-phase, leading to a fall in ductility similar to that in solid solutions. Further work is required to clarify the transformations in the γ-phase. Ductility does not increase uniformly with temperature; there is transition to brittleness at 600-650° in cast specimens and at 500-600° in equilibrium annealed. In both cases there was an increase to maximum ductility at 700°, followed by a sudden fall to zero at 725° and 750° respectively. At still higher temperatures ductility increased uniformly. γ-phase Cu-Zn can be deformed by hot-pressing in a closed die. There are 3 figures and 1 table.

ASSOCIATION: Institut metallurgii i obogashcheniya AN Kaz SSR (Institute of Metallurgy and Beneficiation, AS Kaz.SSR)

Card 2/2

SUBMITTED: May 21, 1962

KASYMBEKOVA, K.K.; PRESNYAKOV, A.A.

Certain properties of the γ'-phase in the system Cu - Zn. (MIRA 16:2)
Fiz.met.i metalloved. 15 no.1:134-137 Ja '63.

1. Institut metallurgii i obogashcheniya AN KazSSR.
(Copper-zinc alloys--Metallography)
(Phase rule and equilibrium)

MELIKHOV, V.D.; KASYMBEKOVA, K.K.; POLYAKOVA, T.P.; PRESNYAKOV, A.A.

Transformation in -brass. Fiz. met. i metalloved. 16 no.5:700-702 N '63. (MIRA 17:2)

1. Institut metallurgii obogashcheniya AN KazSSR.

ACCESSION NR: AP4040686 S/0129/64/000/006/0009/0011

TITLE: Changes in the structure of Mg-Cd alloys in the ordered state

AUTHOR: Kasy*mbekova, K. K.; Melikhov, V. D.; Presnyakov, A. A.

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 6, 1964, 9-11

TOPIC TAGS: ordered state, Mg Cd alloy, plasticity, microhardness, alloy structure

ABSTRACT: So far, there has not been any data available concerned with the effect of the ordered state on plasticity and strength of Mg_2Cd, MgCd and $MgCd_3$ alloys. In earlier work, the authors discovered the anomalous effects that occur in the changes of plastic properties of alloys in a near-ordered state. In Mg-Cd specimens having a stoichoimetric composition, plasticity rose sharply. Now, the authors attempt to verify earlier investigations by submitting cast Mg-Cd specimens in an ordered state to hardening at different temperatures. X-ray examinations showed that the heat-treated specimens subjected to tensile tests consist of a rhombic and a matastable phase. The ordered rhombic phase has the following

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ACCESSION NR: AP4040686

parameters: a = 4,993 kX; b = 3,216 kX and c = 5,256 kKh and the intermediary metastable phase has a = 6,072 kKh; c = 10.018 kX and c/a = 1,65. Maximum microhardness and the greatest changes in lattice parameters were observed at 250C. At this temperature, deformation releases an intensified order-disorder diffusion process that results in high plasticity provided the transformation and deformation processes stand in a favorable kinetic relationship. The orig. art. has: 2 figures.

ASSOCIATION: Institut metallurgii i obogashcheniya AN Kaz. SSR (Institute of Metallurgy and Beneficiation, Ac. of Sci. Kazakh SSR)

SUBMITTED: 00 DATE ACQ: ENCL: 00

SUB CODE: MM NR REF SOV: 006 OTHER: 001

Card 2/2

KASYMIN, Yu.A.

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/1 PG - 827
AUTHOR KASJMIN Ju.A.
TITLE On the completeness of the function systems $\{f(z+\alpha_n)\}$ and $\{f^{(n)}(z)\}$.
PERIODICAL Uspechi mat.Nauk 12, 2, 151-154 (1957)
reviewed 6/1957

Theorem 1: Let the function $f(z)$ be analytic in $|z|<R$ and $\{\alpha_n\}$ $(n=0,1,2,\ldots)$ be an infinite sequence of different points, where $\sup_n |\alpha_n| = \alpha$, $\alpha<R$. Then the function systems $\{f(z+\alpha_n)\}$ and $\{f^n(z)\}$ $(n=0,1,2,\ldots)$ are at the same time complete in $|z|<r$, $r = R-\alpha$ or not.
Theorem 2: If the system $\{f^{(n)}(z)\}$ is complete in $|z-\gamma_0|<r$, $|\gamma_0|+r \leq R$, then this system is complete in every circle $|z-\gamma|<\varrho$, $\varrho \leq r$, $|\gamma|+\varrho \leq R$.
The proofs are given with the aid of infinite systems of linear equations.

KASYMKHODZHAYEV, E.S.

Cases of intracranial lipoma. Med. zhur. Uzb. no.10:69 '61.
(MIRA 14:10)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. G.N.Terekhov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(BRAIN—TUMORS)

MAGRUPOV, A.I.; KASYMKHODZHAYEV, E.S.; ALIMOV, V.A.

Clinical and anatomical characteristics of poliomyelitis. Sbor.nauch. trud.TashGMI 22:360-370 '62. (MIRA 18:10)

1. Kafedra patologicheskoy anatomii (zav. - prof. G.N.Terekhov) Tashkentskogo gosudarstvennogo meditsinskogo instituta i 3 detskoy infektsionnoy bol'nitsy Tashkentskogo gorodskogo otdela zdravookhraneniya (glavnyy vrach A.P.Udaleva).

KASYMKHODZHAYEV, I.

Projection anatomy of the anterior transitional margins of the pleural sacs in fetuses and newborn infants. Trudy KirgNOAGE no.2:176-179 '65.

Proj. ction anatomy of the anterior transitional pleural sacs in aculta. Ibid.:179-181

Age-related projection anatomy of the pleural sacs in fetuses, newborn infants and adults. Ibid.:182-184

(MIRA 18:11)

1. Iz kafedry normal'noy anatomii Andizhanskogo gosudarstvennogo meditsinskogo instituta (zav. - prof. I.G.Mardershteyn) i kafedry normal'noy anatomii domashnikh zhivotnykh (zav. - prof. A.F. Khanzhin) Kirgizskogo sel'skokhozyaystvennogo instituta imeni Skryabina.

MIRSAGATOV, M.U.; POGORELKO, I.P.; KASYMKHODZHAYEV, I.S.

Innervation of the seminal vesicles in man. Med. zhur. Uzb. no.6: 59-62 Je '61. (MIRA 15:1)

1. Iz gonoroynogo otdeleniya Uzbekistanskogo kozhno-venerologicheskogo instituta i urologicheskoy kliniki Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(SEMINAL VESICLES—INNERVATION)

KASYMKHODZHAYEV, S.; SIDOROV, K., starshiy instruktor; SHABAYEV, V.

Inspection of red corners is in progress. Sov. profsoiuzy 18 no. 11:34-35 Je '62. (MIRA 15:6)

1. Zaveduyushchiy kul'turno-massovym otdelom Uzbekskogo respublikanskogo soveta profsoyuzov, g. Tashkent (for Kasymkhodzhayev).
2. Gor'kovskiy oblastnoy sovet professional'nykh soyuzov (for Sidorov).
3. Rostovskiy zavod sel'skokhozyaystvennogo mashinostroyeniya (for Shabayev)

(Community centers)

BRESLAVETS, L.P.; KASYMOV, A.; FILIPPOVA, N.F.

Changes in the process of cell division and nuclear structure under the effect of irradiation and radiotoxins. Radiobiologiia 5 no.5:735-737 '65. (MIRA 18:11)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

ARIFOV, U. A.; KASYMOV, A. Kh.

Methodology for studying the energy distribution of the secondary electrons during the bombardment of metals by electrons. Radiotekh. i elektron. 8 no.1:138-144 Ja '63.
(MIRA 16:1)

(Secondary electron emission)

KUZIN, A.M.; KASYMOV, A.; KRYUKOVA, L.M.

Mechanism of stimulating and inhibiting action of radiation on potato tubers. Radiobiologiia 4 no.1:144-149 '64. (MIRA 17:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

KRYUKOVA, L.M.; KASYMOV, A.

Role of radiotoxins in the disturbance of structural formation in irradiated plants. Dokl. AN SSSR 156 no. 5:1204-1206 Je '64. (MIRA 17:6)

1. Institut biologicheskoy fiziki AN SSSR. Predstavleno akademikom A.L.Kursanovym.

BRESLAVETS, L.P.; KRYUKOVA, L.M.; KASYMOV, A.

Changes in the organelles of plant cells induced by extracts from irradiated potato tubers. Fiziol. rast. 11 no.5:848-852 S-O '64. (MIRA 17:10)

1. Institute of Biological Physics, U.S.S.R. Academy of Sciences, Moscow.

KRYUKOVA, L.M.; KASYMOV, A.

Effect of ionizing radiation on the initial phases of growth of thermophilic rice and mung bean plants. Uzb. biol. zhur. 8 no.6:5-7 '64. (MIRA 18:3)

1. Institut biofiziki AN SSSR.

L 7765-66
ACC NR: AP5025927 SOURCE CODE: UR/0205/65/005/005/0735/0737

AUTHOR: Breslavets, L. P.; Kasymov, A.; Filippova, N. F.

ORG: Institute of Biological Physics AN SSSR, Moscow (Institut biologicheskoy fiziki AN SSSR)

TITLE: Cell division and structure of nuclei changes induced by irradiation and radiotoxin action

SOURCE: Radiobiologiya, v. 5, no. 5, 1965, 735-737

TOPIC TAGS: plant growth, radiation plant effect, mitosis, plant genetics, toxicology

ABSTRACT: Rye seeds (Vyatka variety) and 5 day old pea sprouts (Pobeditel' variety) were soaked for 24 hrs in extracts prepared from irradiated (Cs^{137} gamma-rays, 70 r/min, 50 kr dose) and nonirradiated potato tubers and also in water to investigate radiotoxin effects. After rye seeds and pea sprouts were washed off with water, they were allowed to germinate for 43 hrs and 24 hrs respectively. Then the rye and pea sprouts were fixed to determine mitotic indices and structural changes of nuclei. Results show that the effects of radiotoxins extracted from irradiated potato tubers are similar to those of direct irradiation: inhibition of cell mitosis, chromosome aberrations, and

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UDC: 58.039.1

L 7765-66

ACC NR: AP5025927

partial pyknosis of nuclei ("unilateral pyknosis"). The only difference is that the cell changes produced by radiotoxins are several times weaker than those produced by direct irradiation. This circumstance makes it possible to study in greater detail cellular changes that take place under radiation action. Orig. art. has: 3 tables.

SUB CODE: 06/ SUBM DATE: 17Jul64/ ORIG REF: 006/ OTH REF: 003

nw

Card 2/2

KASYMOV, A.G.

Larvae of Tendipedidae in some water basins of Azerbaijan. Dokl.AN Azerb. SSR 12 no.5:347-351 '56. (MIRA 9:9)

1. Predstavlano akademikom AN Azerbaydzhanskoy SSR A.N.Dorzhavinym.
(Azerbaijan--Diptera) (Azerbaijan--Larvae)

KASUMOV, A.G.

Nutrition and speed of growth of the young of Vimba vimba natio carinata Pallas and Chalcalburnus chalcoides schischkovi Drensky in ponds [in Azerbaijani with summary in Russian]. Dokl.AN Azerb. SSR 12 no.10:723-730 '56. (MIRA 10:1)
(Krasnodar Terriatory--Fishes--Food)

KASYMOV, A.G.

Some data on the biology of the mollusk Lymnaea stagnalis L. [in Azerbaijani with summary in Russian]. Izv.AN Azerb.SSR no.1:91-99 Ja '57. (Krasnodar Territory--Snails)

KASYMOV, A.G.

Nutrition of the larvae of some Tendipedidae [in Azerbaijani with summary in Russian]. Dokl. AN Azerb. SSR 13 no.2:209-213 '57.
(MIRA 10:7)

(Kura Valley--Chironomidae) (Larvae)

KASYMOV, A.G.

Studying the life cycle of the mollusk Sphaerium (musculium) lacustre (Müll.). Dokl. AN Azerb.SSR 13 no.3:325-327 '57. (MIRA 10:7)

1. Institut zoologii Akademii nauk Azerbaydzhanskoy SSR. Predstavleno akademikom Akademii nauk Azerbaydzhanskoy SSR A.N. Dershavinym.
(Lamellibranchiata)

KASYMOV, A.G.

Larval nutrition of some Tendipedidae. Dokl. AN Azerb. SSR 13 no.9: 1017-1020 '57. (MLRA 10:9)

1. Institut zoologii. Predstavleno akademikom AN Azerbaydzhanskoy SSR A.N. Derzhavinym.
(Kura Valley--Chironomidae)

KASYMOV, A.G.

Tendipedid larvae (Tendipedidae) in the fresh waters of Azerbaijan. Dokl. AN Azerb. SSR 14 no.5:401-405 '58. (MIRA 11:5)

1.Institut zoologii AN AzerSSR. Predstavleno akademikom AN AzerSSR A.N. Derzhavinym.

(Azerbaijan--Chironomidae)

KASYMOV, A.G.

Benthos in the pond of a vimba and bleak hatchery. Izv.AN Azerb. SSR.Ser.biol.i sel'khoz.nauk no.2:49-54 '59. (MIRA 12:8)
(Psekups Valley--Fresh-water fauna) (Fishes--Food)
(Carp)

KASYMOV, A.G..

Azerbaijanian species of water mites (Hydracarina) [in Azerbaijani with summary in Russian]. Dokl. AN Azerb. SSR 15 no.4:345-346 '59.
(MIRA 12:6)

1.Institut zoologii AN Azerbaydzhanskoy SSR.
(Azerbaijan--Water mites)

DERZHAVIN, A.N.; KASYMOV, A.G.; ZHURAVLEV, M.V.; LIKHODEYEVA, N.F.

Materials on the hydrobiology of lakes in the mountain forest zone of Azerbaijan. Trudy Inst.zool.AN Azerb.SSR 20:139-189 '59. (MIRA 12:10)

(Azerbaijan--Fresh-water biology)

KASYMOV, A.G.

Study of the flora and fauna of Varvara Reservoir. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.5:103-108 '60. (MIRA 14:9)
(VARVARA RESERVOIR--FRESH-WATER BIOLOGY)

KASYMOV, A.G.

Biology of the amphipod Pontogammarus robustoides (Grimm). Zool. zhur. 39 no.8:1151-1155 Ag '60. (MIRA 13:8)

1. Institute of Zoology, Academy of Sciences of the Azerbaijan S.S.R. (Baku).
(Azerbaijan--Amphipoda)

KASYMOV, A.G.; BABAYEV, G.B.

Bottom fauna of the tail waters of the Mingechaur Reservoir. Dokl. AN Azerb. SSR 17 no. 2:147-150 '61. (MIRA 14:4)
(Mingechaur Reservoir—Fresh-water fauna)

KASYMOV, A.G.

Study of the feeding habits of larvae of Procladium choreus Meigen (Diptera, Tendipedidae). Dokl.AN Azerb.SSR 17 no.4:341-344 '61. (MIRA 14:6)

(Chironomidae)

KASYMOV, A.G.

Ecologic characteristics of the amphipod Pontogammarus robustoides (Grimm) Mart. introduced into Mingechaur Reservoir. Vop. ekol. 5:92-93 '62. (MIRA 16:6)

1. Institut zoologii AN Azerbaydzhanskoy SSR, Baku.
(Mingechaur Reservoir--Gammaridae)
(Mingechaur Reservoir--Animal introduction)

KASYMOV, A.G.; KHALILOV, A.R.

Studying the metamorphosis of Tanytarsus lauterborni Kieffer in Varvara Reservoir. Dokl.AN Azerb.SSR 18 no.1:89-91 '62.
(MIRA 15:3)

1. Institut zoologii AN AzSSR. Predstavleno akademikom AN AzSSR A.N.Derzhavinym.

(Varvara Reservoir--Chironomidae) (Insects--Development)

DERZHAVIN, A.N.; KASYMOV, A.G.; ZHURAVLEV, M.V.; LIKHODEYEVA, N.F.

Hydrobiological investigation of the lower Kura River. Trudy Inst. zool. AN Azerb. SSR 22:5-45 '62. (MIRA 15:11)
(Kura River—Freshwater biology)

ABDURAKHMANOV, Yu.A.; KASYMOV, A.G.

Food relations of fishes in the basin of the Kura River. Zool. zhur. 41 no.6:901-904 Je '62. (MIRA 15:7)

1. Institute of Zoology, Academy of Sciences of the Azerbaijan S.S.R., Baku.
(Kura Valley--Fishes--Food)

KASYMOV, A.G.

Zoogeographical analysis and the history of the development of freshwater fauna in the Kura River. Izv. AN Azerb. SSR. Ser. biol. i med. nauk no.3:45-55 '63. (MIRA 16:6)
(Kura River—Freshwater fauna)

KASYMOV, A.G.

"Freshwater fishes of Azerbaijan" by IU.A.Abdurakhmanov. Reviewed by A.G.Kasymov. Zool. zhur. 42 no.1:152-153 '63. (MIRA 16:5)
(Azerbaijan—Fishes, Freshwater) (Abdurakhmanov, IU.A.)

KASYMOV, A.G.

A new species of tendipedid (Cryptochironomus pankratovae Kasumov sp. n.) larva from the Kura River. Dokl. AN Azerb. SSR 20 no. 6:63-64 '64. (MIRA 17:9)

1. Institut zoologii AN AzerSSR. Predstavleno akademikom AN AzerSSR A.N.Derzhavinym.

MUSAYEV, M.A., red.; KASYMOV, A.G., kand. biol. nauk, red.;
ABDURAKHMANOV, Yu.A., kand. biol. nauk

[Hydrobiological and ichthyological studies in the southern Caspian Sea and inland bodies of water of Azerbaijan] Gidrobiologicheskie i ikhtiologicheskie issledovaniia na IUzhnom Kaspii i vnutrennikh vodoemakh Azerbaidzhana. Baku, Izd-vo AN Azerbaidzhanskoi SSR, 1965. 168 p. (MIRA 18:6)

1. Akademiya nauk Azerbaydzhanskoy SSR, Baku. Institut zoologii. 2. Chlen-korrespondent AN Azerbaydzhanskoy SSR (for Musayev).

KASYMOV, A.G., doktor biol. nauk; NADZHAFOV, G., red.

[Biological regimen of Mingechaur Reservoir] Biologicheskii rezhim Mingechaurskogo vodokhranilishcha. Baku, Azerbaidzhanskoe gos. izd-vo, 1965. 87 p.
(MIRA 18:10)

KASYMOV, A.G.; GAIBOVA, R.A.

First Congress of the All-Union Hydrobiological Sociey. Izv. AN Azerb. SSR. Ser. biol. nauk no.3:135-136 '65.

(MIRA 18:10)

KASIMOV, A. M.

"Study of Vitamin C Hypovitaminosis and Avitaminosis in Gastrointestinal Diseases in Children in Uzbekistan." Cand Med Sci, Tashkent State Medical Inst, 27 Oct 54. (MV, 22 Sep 54)

SO: Sum 432, 29 Mar 55

KASYMOV, A.K.

Vitamin C deficiency in gastrointestinal diseases in children.
Pediatriia no.2:32-36 Mr-Ap '54. (MLRA 7:6)

1. Iz kliniki gospital'noy pediatrii (zav. zasluzhennyy deyatel' nauki, prof. R.S.Gershenovich) pediatricheskogo fakul'teta Tashkentskogo meditsinskogo instituta.
(GASTROINTESTINAL DISEASES, in infant and child,
*with scurvy)
(SCURVY, in infant and child,
*in gastrointestinal dis.)

45036
S/109/63/008/001/018/025
D266/D308

26.2322

AUTHORS: Arifov, U. A. and Kasymov, A. Kh.

TITLE: A method of investigating the energy distribution of secondary electrons in electron bombardment of a metal

PERIODICAL: Radiotekhnika i elektronika, v. 8, no.1, 1963, 138-144

TEXT: The main advantage of the method is the simultaneous measurement of both the integral and the differential distribution. The scheme of the experimental apparatus can be seen in Fig. 1. The primary electron beam is accelerated by the electrodes 2 and while passing through the condenser 3 obtains a square wave modulation of 100 - 1000 cycles. The sample is located at 8, the induced secondary electrons are collected on 5 and the purpose of the grid 6 is to prevent ternary electron emission. The potential of the collector is modulated by the saw tooth generator 15 which at the same time controls the horizontal scale of the oscillograph 20 (collector current is on the vertical scale). At a different position of the switches 17 and 18 the sample is negatively biased in

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A method of investigation ...

respect to the collector and the saw-tooth voltage is fed to the analyzer 11. The electrons of a selected velocity reach the photomultiplier 13 and the amplified current is displayed on the oscillograph 14 (horizontal scale controlled again by the saw-tooth voltage). Thus oscillograph 14 shows the number of electrons at a certain velocity v whilst the ordinate on oscillograph 20 is proportional to the total number of electrons which have a velocity larger than the corresponding potential difference between collector and sample. Measurements were carried out on specially prepared tantalum and molybdenum samples and the peaks of the results were in good agreement with previously reported measurements (O. W. Richardson, Proc. Roy. Soc. A., 1930, 128, 63, and Chorower, Phys. Rev., 1956, 102, 340). There are 6 figures.

SUBMITTED: March 19, 1962

A method of investigating ...

S/109/63/008/001/018/025
D266/D308

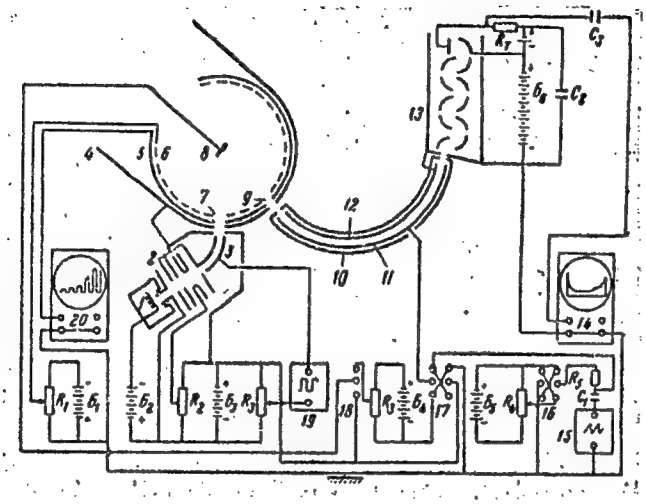

Fig. 1

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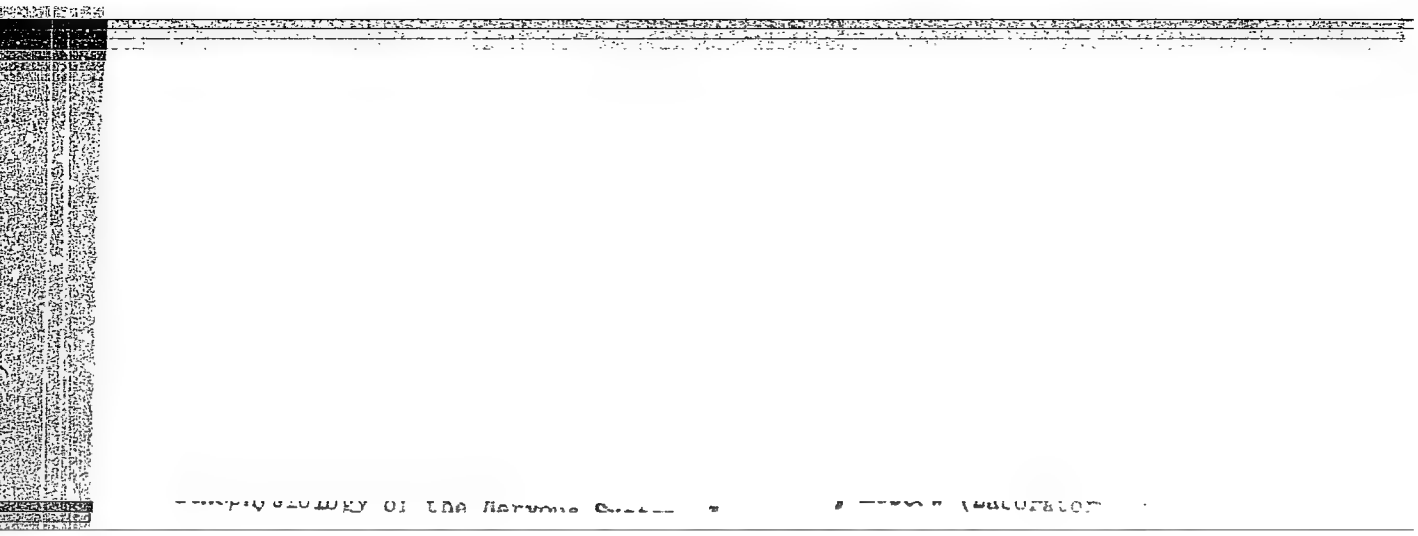
A method of investigating ... S/109/63/008/001/018/025
D266/D308

Figure caption:
Apparatus and measurement scheme: 1 - heating coil; 2 - electrostatic lenses; 3 - cylindrical condenser; 4 - shielding cylinder; 5 - collector; 6 - grid; 7 - slot; 8 - sample; 9 - slot; 10 - shield; 11, 12 - cylindrical condenser; 13 - photomultiplier; 14, 20 - oscillographs; 15 - saw-tooth generator; 16, 17, 18 - switches; 19 - square wave generator. 1 to 6 - batteries.

Card 4/4

L 25165-65 EWT(1)/EWA(b) Pa-4 JX



[redacted] Pathophysiology of the Nervous System, Institute of Normal and Pathological Physiology, AMN SSSR) Moscow (Laboratory of Infect[illegible]

L 8418-65 EPA(s)-2/EWT(m)/EPF(n)-2/EPA(bb)-2/EWP(q)/EWP(b) Pt-10/Pu-4 IJP(c)/
ESD(gs)/ESD(t)/RAEM(t) WW/JD/JG
ACCESSION NR: AP4045085

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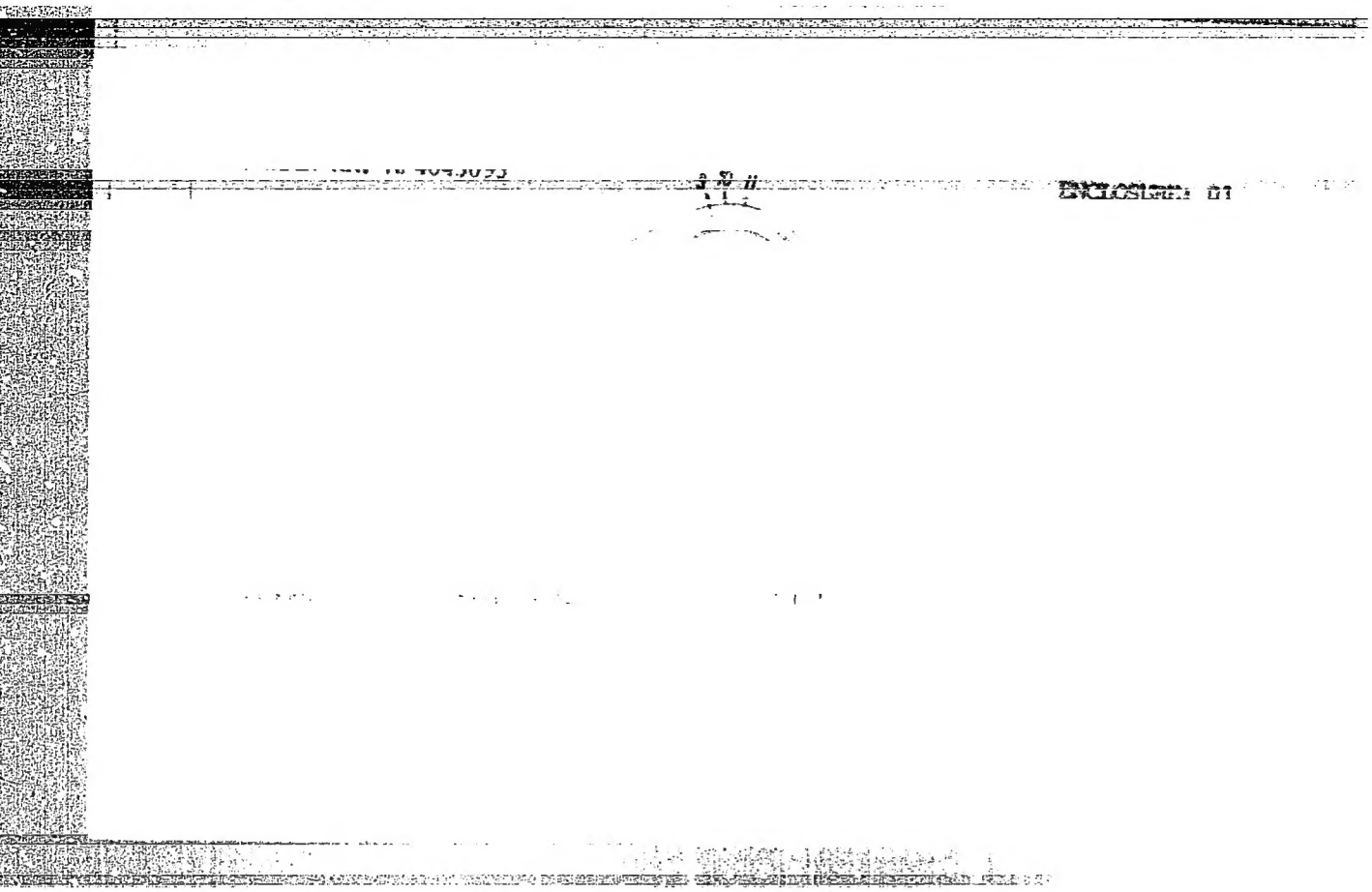
[redacted] pressed by the author that the complete spectrum of the [redacted]



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1. Institut biologicheskoy fiziki AN SSSR, Moskva.